



**Figure 11.** Possible scatter plot due to various response conversions for different fluorescent channels. 10,000 Data points (gene expression levels) were generated by the exponential distribution with mean of 3000. After passing through two fluorescent channels (with some response characteristic functions as shown in parts (a) to (c)), data variations were added by passing each data point through a normal distribution with the standard deviation to be 15% of mean expression signal. (a) Without any alteration (or equivalently, set parameters for the response function to be  $(a_0, a_1, a_2, a_3) = (0, 1, -1, 1)$ ), and assume the signal intensities from red channel and green channel are equivalent (a simulated self-self experiment). (b) Banana-shape. Intensity in green channel pass a response function with parameters  $(a_0, a_1, a_2, a_3) = (0, 500, -1, 1)$ , where red channel takes the parameters  $(0, 10, -1, 1)$ . (c) Sinusoid-shape. The red channel's response function with parameters  $(0, 100^{1/0.7}, -0.7, 1)$ , and the green channel with  $(0, 100^{1/0.9}, -0.9, 1)$ .